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ABSTRACT

Because of the central role of teachers in quality elementary and secondary education, this booklet briefly outlines the condition of public school teachers and how aspects of it have changed in the 10 years since "A Nation at Risk" was published. In short sections illustrated by tables and figures using data from various national sources the booklet covers demography, supply and demand, education, qualifications, compensation, influence on decision making, and attitudes. Overall the number of teachers had grown faster than student enrollment, though class size has generally not fallen. Almost all teachers are certified to teach in their main assignment field, though one quarter to one third in math and science neither majored nor minored in these subjects. More teachers have masters degrees in 1991 than in 1981 and college course-taking patterns of new teachers are generally comparable to those of other college graduates. Salaries have risen and the work force is more experienced. Teacher attrition is not high though some schools have difficulty finding qualified teachers to fill vacancies. Few districts, provide salary incentives or bonuses to recruit or retrain teachers where a shortage exists. (Contains 17 references.) (JB)

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AMERICA'S TEACHERS TEN YEARS AFTER "A NATION AT RISK"

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May 1995

The text in this booklet was written by Thomas M. Smith of the Data Development Division of NCES and appeared originally in the ***Condition of Education, 1994****. Susan P. Choy of MPR Associates, Inc. adapted the content to this format, and Leslie Retallick and Lynn Sally designed the graphics and layout.*

America's Teachers Ten Years After "A Nation at Risk"

Most of our children's formal education takes place through interaction between teachers and students in the classroom. Through this process, teachers play a critical role in passing on knowledge and societal values. Because good teachers are central to high quality education, and because their salaries constitute a major portion of the elementary and secondary education budget, the state of the teaching profession is an ongoing concern of policymakers and education administrators.

In 1983, the National Commission on Excellence in Education reported in *A Nation At Risk* that not enough "academically able" students were being attracted to teaching as a career option; teacher preparation focused on educational methods at the expense of the subjects to be taught; teacher salaries were low; and teachers had little influence in decision making.[1] Many of the school reform efforts of the past ten years have included policies and practices designed to improve the quality of the teaching force.

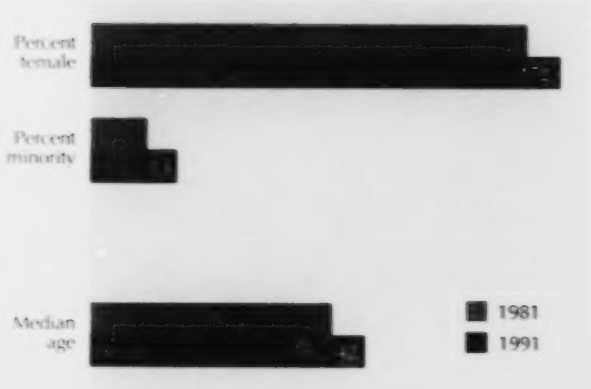
This third publication in the series of *Findings from the Condition of Education* examines the current state of the teaching profession and how aspects of it have changed over the past decade. The first two publications looked at students: No. 1, "High School Students Ten Years After *A Nation At Risk*," which documents gains in student achievement over the past decade; and No. 2, "The Educational Progress of Black Students," which looks in detail at the progress of black students relative to white students.

Demographic Characteristics

- **The demographic characteristics of public school teachers have changed substantially since the early 1980s.**

A greater proportion of public school teachers were female in 1991 than in 1981. In addition, the public school teaching force became considerably older and more ethnically diverse during the 1980s.

Demographic characteristics of public school teachers



SOURCE: National Education Association, "Status of the American Public School Teacher, 1990-91," 1992.

- **Growth in the public school teaching force since 1981 has outpaced increases in elementary and secondary student enrollments.**

Between 1981 and 1991, the number of teachers per 100 students increased from 5.3 to 5.8 in the public schools. The number of principals, assistant principals, and school district administrators per 100 students remained stable during this period.

Full-time-equivalent staff employed in public schools (per 100 students)

School year ending	Total staff	Classroom teachers	Principals and assistant principals	Other instructional staff	School district administrators	Support staff
1981	10.2	5.3	0.3	1.4	0.2	3.0
1986	10.6	5.6	0.3	1.1	0.2	3.4
1991	10.9	5.8	0.3	1.3	0.2	3.3

SOURCE: NCES, Common Core of Data.

Accompanying this increase in the ratio of teachers to students was a slight drop in average class size for public elementary school teachers between 1981 and 1991 (from 25 to 24). However, the average class size for public secondary school teachers increased from 23 to 26 students during the same time period.[2]

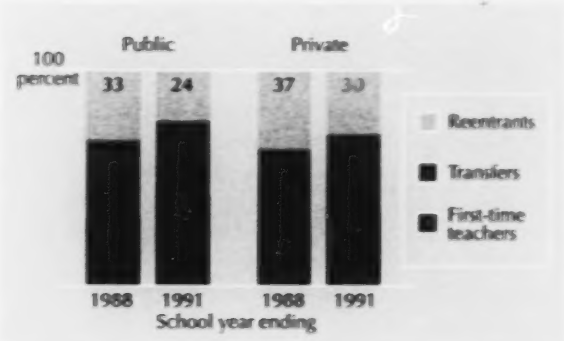
This apparent contradiction may have several causes. Teachers may have been teaching fewer classes, because the average number of students taught per day declined from 118 to 93. In addition, there was a growth in the number of special education, compensatory education, and bilingual education teachers, who

often work with smaller classes or as resource teachers. In 1991, 5 percent of public secondary school teachers reported that they spent the largest fraction of their time teaching special education students, up from 2 percent in 1981.[3]

- **In both public and private schools, an increasing proportion of newly hired teachers are first-time teachers.**

When hiring new teachers, principals must make tradeoffs between salary and experience. Teachers coming from other schools and former teachers returning to teaching offer more experience, but command higher salaries than first-time teachers. First-time teachers have lower salaries, but they bring less experience and tend to have a higher rate of attrition from the profession. Between 1988 and 1991, the sources of supply of newly hired teachers shifted as both public and private schools hired proportionately more first-time teachers and proportionately fewer reentrants.

Sources of supply of new teachers



SOURCE: NCES, Schools and Staffing Survey: 1987–88 and 1990–91 (Teacher Questionnaire).

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- **In general, teacher attrition in public elementary and secondary schools is low.**

The ability of schools to attract and keep qualified teachers, both in general and in specific subject areas such as mathematics and science, has generated considerable attention. Despite concern about attrition, only 5 percent of full-time public school teachers actually left the teaching profession between 1987–88 and 1988–89.[8] Keeping mathematics and science teachers does not appear to be as big a problem as was once feared. Mathematics and science teachers in public secondary schools were no more likely than teachers in other fields to leave teaching.

Change in teaching status of full-time public secondary teachers between 1987–88 and 1988–89 (percentage distribution by primary assignment)

Teaching status in 1988–89 relative to 1987–88	Academic: Science/ math	Academic: Non-science/ math	Vocational	Special groups*
Total	100.0	100.0	100.0	100.0
Teaching in same school	89.9	89.3	89.5	85.2
Teaching in another school	4.7	5.2	5.0	9.7
Left teaching	5.4	5.6	5.5	5.0

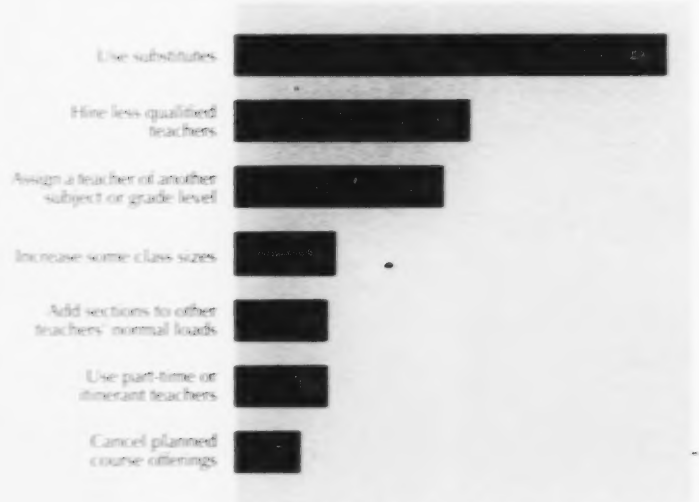
*Special education, remedial education, bilingual education, English as a second language, and education of the gifted.

SOURCE: NCES, Schools and Staffing Survey: 1987–88 (Teacher Questionnaire) and Teacher Followup Survey: 1988–89.

- **Schools use a variety of methods to respond to teacher shortages.**

In 1990–91, 15 percent of all schools (including both public and private) reported having teaching vacancies they could not fill with a teacher qualified in the course or grade level to be taught.[5] The most commonly used method of dealing with this problem was to hire substitutes, but schools often used other strategies as well.

Percentage of schools using various methods to cover teaching vacancies


Use substitutes
Hire less qualified teachers
Assign a teacher of another subject or grade level
Increase some class sizes
Add sections to other teachers' normal loads
Use part-time or itinerant teachers
Cancel planned course offerings

SOURCE: NCES, Schools and Staffing Survey: 1990–91 (School Questionnaire).

When there were teacher shortages in particular subject areas, 10 percent of public school districts and 16 percent of private schools provided free retraining to prepare staff to teach in these subjects. In the case of any one specific field, relatively few public school districts provided free retraining (2 to 5 percent, depending on the field). However, more districts provided free retraining for special education than for any other field except mathematics.[6]

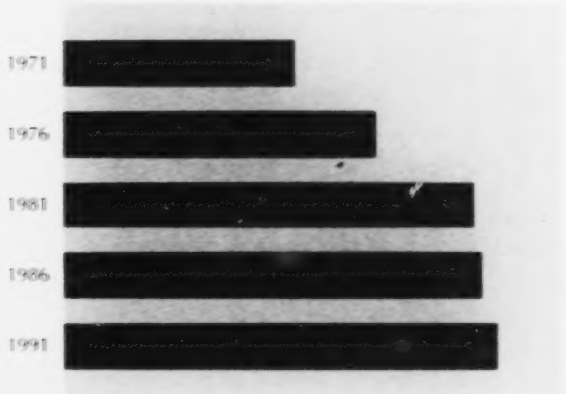
Pay incentives are not generally used to recruit or retrain teachers in fields of shortage. In 1987–88, only 3 percent of public school districts offered increases in the salary schedule to recruit or retain teachers where a shortage existed. Even fewer offered cash bonuses (1 percent) or other pay incentives (2 percent).[7]

EDUCATION

- **Today's teachers are better educated than a decade ago.**

Public school teachers are more likely to have an advanced degree than they were 10 or 20 years ago. Less than 1 percent of all teachers had less than a bachelor's degree in 1991, and a majority had an advanced degree.[8]

Percentage of public school teachers with a master's, specialist, or doctoral degree



SOURCE: National Education Association, "Status of the American Public School Teacher, 1990–91," 1992.

The minimum requirements to become a teacher are strikingly similar across countries. Teachers in the United States, Canada, Japan, Australia, and the United Kingdom receive similar amounts of basic teacher training as measured by minimal years of schooling—4 years of college or teacher training programs in universities.[9]

- **The course-taking patterns of new teachers are similar to those of other college graduates.**

Generally, the course-taking patterns for new teachers graduating in 1985–86 were not markedly different from those of all bachelor's degree recipients that year. A smaller percentage of new teachers took calculus and economics and a larger percentage took geography and history than did graduates overall.

Percentage of 1985–86 bachelor's degree recipients taking one or more courses in selected fields

		Full-time teachers one year after graduation			
Subject	All BA recipients	Total	Humanities and social science teachers	Science and math teachers	General education teachers
English	86.8	91.2	91.3	88.7	90.2
Foreign language	36.1	34.1	52.0	43.1	26.9
Economics	52.8	23.0	23.6	30.8	20.0
Geography	14.2	26.0	20.7	19.2	33.7
History	63.2	75.1	77.5	75.0	75.5
Life science	52.9	68.7	66.4	73.4	67.3
Physical science	66.9	67.2	63.3	78.7	69.1
Mathematics	78.1	77.2	65.9	94.3	76.1
Calculus	37.7	15.8	9.8	56.3	8.0
Education	36.3	95.5	92.6	94.2	98.0

SOURCE: NCES, 1987 Survey of Recent College Graduates, Transcript Data File.

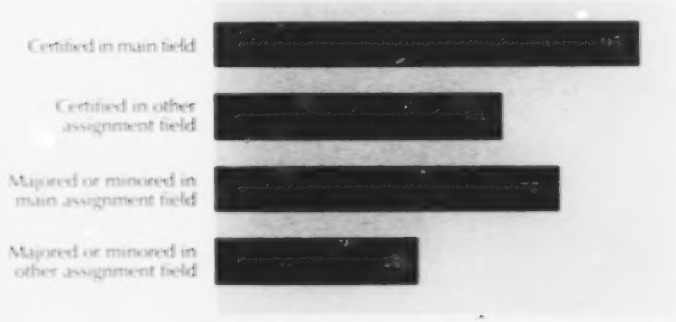
QUALIFICATIONS

- **Almost all public secondary school teachers are certified to teach in their main assignment field.**

A Nation At Risk suggested that half of the newly employed mathematics, science, and English teachers were not qualified to teach these subjects and that fewer than one-third of U.S. high schools offered physics taught by qualified teachers. Although *qualified* is a subjective term, several measures exist to determine how well matched teachers are to their teaching assignments.

In 1990–91, almost all full-time public secondary school teachers were certified to teach in their main assignment field (that is, the field in which they taught the most classes). However, only about two-thirds of teachers with an additional assignment field were certified to teach in that field.

Qualifications of full-time public secondary school teachers in 1990–91


Certified in main field
Certified in other assignment field
Majored or minored in main assignment field
Majored or minored in other assignment field

SOURCE: NCES, Schools and Staffing Survey: 1990–91 (Teacher Questionnaire).

Teachers with a main assignment in mathematics or science were less likely than those with a main assignment in English or humanities to have had college majors matching their assignment field. Only about one-third of teachers who taught mathematics in addition to courses in their main assignment field had majored or minored in mathematics or mathematics education.[10]

Percentage of full-time public secondary teachers with various qualifications in 1990–91

Assignment field	Certified in main assignment field	Certified in other assignment field	Majored or minored in main assignment field	Majored or minored in other assignment field
English and humanities	95.6	61.5	83.0	51.1
Social science	95.9	60.7	88.8	36.7
Mathematics	94.2	71.0	74.9	34.5
Science	95.0	68.1	62.0	45.1
Education specialties*	95.0	59.7	73.4	44.0

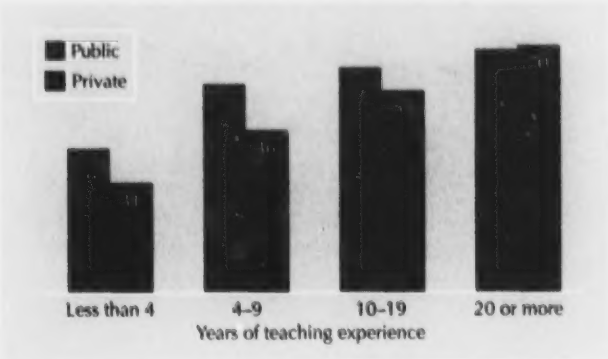
*Elementary, home economics, physical, vocational, and special vocational education.

SOURCE: NCES, Schools and Staffing Survey: 1990–91 (Teacher Questionnaire).

- **Teachers are updating their skills.**

About 15 percent of public and private school teachers in the 1991–92 school year reported pursuing a new degree or completing a degree program within the last year. Some teachers develop their skills by attending school- or district-sponsored workshops. Sixty-one percent of public school teachers and 49 percent of private school teachers reported that they had participated in teacher workshops or inservice training requiring 30 or more hours of class attendance at some time in their careers.[11]

Percentage of teachers who have ever participated in workshops or inservice training requiring 30 or more hours of attendance



SOURCE: NCES, Schools and Staffing Survey: 1990–91 (Teacher Questionnaire).

COMPENSATION

- **Salaries for public school teachers (adjusted for inflation) increased substantially between 1980 and 1994.**

Adjusted for inflation, public school teacher salaries increased by 20 percent in the 1980s after a period of decline in the 1970s. Between 1980 and 1994, the average public school teacher salary (in 1994 dollars) increased from $30,528 to $36,495. Between 1980 and 1993, the average salary for a beginning teacher in the public schools increased about 17 percent, from $21,028 to $24,661.

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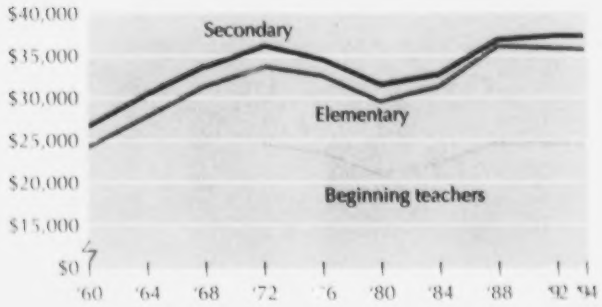
Average public school teacher salaries (1994 dollars)



SOURCE: National Education Association, *Estimates of School Statistics, 1994*. American Federation of Teachers, *Survey and Analysis of Salary Trends, 1994*.

This rise in salaries can be partially explained by increases in teachers' education and experience levels, both of which are usually major determinants of teacher salaries in public schools. Between 1981 and 1991, the median number of years of teaching experience among public school teachers increased from 12 to 15 years.[12]

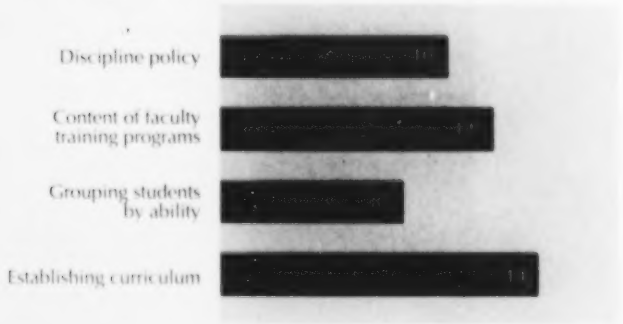
Teacher salaries are based on a 9- or 10-month contract, so one might expect teachers' salaries to be somewhat lower than those of other white-collar professionals. However, the annual salaries of some white-collar professionals are much higher, more than 20 to 25 percent higher, than the salaries of teachers. For example, in 1992, lawyers earned nearly double the average teacher salary, and chemists and engineers 50 to 60 percent more. Auditors and accountants, on the other hand, earned about 10 to 20 percent more than teachers.[13]

Influence on Decision Making

One aspect bearing on the climate and responsiveness of a school is the extent to which teachers participate in making decisions concerning important school policies and issues. *A Nation At Risk* found that "individual teachers had little influence in such critical professional decisions as, for example, textbook selection."

In 1990–91, relatively few secondary teachers reported that faculty in their schools had a great deal of influence over school policies related to discipline, faculty training programs, student tracking, or curriculum.

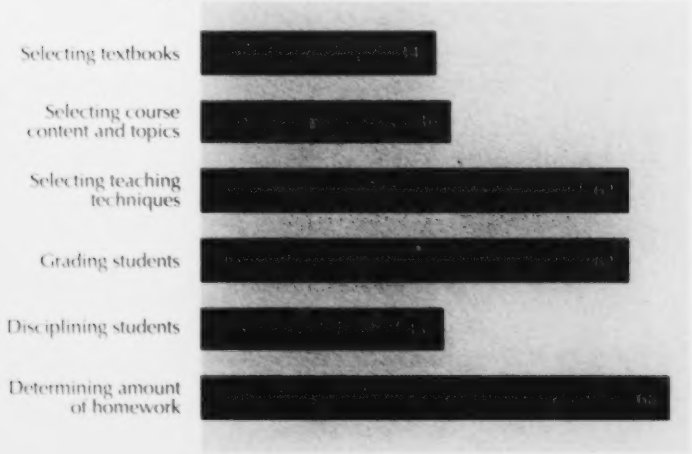
Percentage of teachers reporting in 1990–91 that they had a great deal of influence over school policies



SOURCE: NCES, Schools and Staffing Survey: 1990–91 (Teacher Questionnaire).

Teachers had more influence over classroom practices than school policies. About one-third of secondary school teachers indicated they had complete control over selecting textbooks, course content, and disciplining students. However, they were far more likely to indicate they had complete control over instructional practices in their classrooms, such as selecting teaching techniques, grading students, and determining the amount of homework.

Percentage of teachers reporting in 1990–91 that they had complete control over classroom decisions



SOURCE: NCES, Schools and Staffing Survey: 1990–91 (Teacher Questionnaire).

ATTITUDES

- **Teachers seem to be happier about their choice of profession than they were a decade ago.**

In 1981, 46 percent of public school teachers said that they certainly or probably would be willing to teach again, a decline from 1971. By 1991, the percentage had increased to 59 percent.

Percentage of teachers willing to teach again

Willingness to teach again	1971	1981	1991
Certainly would	44.9	21.8	28.6
Probably would	29.5	24.6	30.5
Chances about even	13.0	17.6	18.5
Probably would not	8.9	24.0	17.0
Certainly would not	3.7	12.0	5.4

SOURCE: National Education Association, "Status of the American Public School Teacher, 1990–91," 1992.

SUMMARY

The teaching work force has changed over the past decade. The number of teachers has grown faster than student enrollment, though average class size has generally not fallen. Almost all teachers are certified to teach in their main assignment field. However, one-quarter to one-third of teachers with a main assignment in mathematics or science neither majored nor minored in those subjects. A higher percentage of teachers had master's degrees in 1991 than in 1981, and the college course-taking patterns of new teachers are generally comparable to those of other college graduates. Teacher salaries have risen, and the teaching work force is more experienced. Teacher attrition is not particularly high, though some schools have difficulty finding qualified teachers to fill vacancies. Few districts, however, provide salary incentives or bonuses to recruit or retrain teachers where a shortage exists.

References

[1]The National Commission on Excellence in Education, *A Nation At Risk: The Imperative for Educational Reform*. Washington, D.C.: April 1983, 22–23.

[2]National Education Association, *Status of the American Public School Teacher, 1990–91*, 1992.

[3]National Education Association, *Status of the American Public School Teacher, 1990–91*, 1992.

[4]Schools and Staffing Survey: 1987–88 and Teacher Followup Survey: 1988–89.

[5]Schools and Staffing Survey: 1990–91 (Private School and Teacher Demand and Shortage Questionnaires).

[6]*Schools and Staffing: 1990–91*, table 7.5, based on Schools and Staffing Survey: 1990–91 (Private School and Teacher Demand and Shortage Questionnaires).

[7]Schools and Staffing Survey: 1987–88 (Teacher Demand and Shortage Questionnaires).

[8]*Digest of Education Statistics, 1993*, table 68, based on National Education Association, *Status of the American Public School Teacher, 1990–91*, 1992.

[9]F. H. Nelson, *Survey and Analysis of Salary Trends, 1993* (Washington, D.C.: American Federation of Teachers, 1993), table II-1.

[10]Schools and Staffing Survey: 1990–91 (Teacher Questionnaire).

[11]Schools and Staffing Survey: 1990–91 and Teacher Followup Survey: 1991–92.

[12]National Education Association, *Status of the American Public School Teacher, 1990–91*, 1992.

[13]National Education Association, *Status of the American Public School Teacher, 1990–91*, 1992.

For more information, see the following NCES publications:

The Condition of Education, 1994. Washington, D.C.: 1994.

Digest of Education Statistics, 1994. Washington, D.C.: 1994.

Schools and Staffing in the United States: A Statistical Profile, 1990–91. Washington, D.C.: 1993.

America's Teachers: Profile of a Profession. Washington, D.C.: 1993.

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